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(58) Field of search

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(54) Corner shelf and bracket

(57) A bracket 10 for a corner shelf 17 has two arms 11 of generally T-cross-section which may be permanently connected or may be formed in two parts and fitted together. The web 12 of the T bears up against a wall at a corner and the flange 13 projects horizontally. An associated shelf is provided with grooves 19 in which the flanges are received to support the shelf.

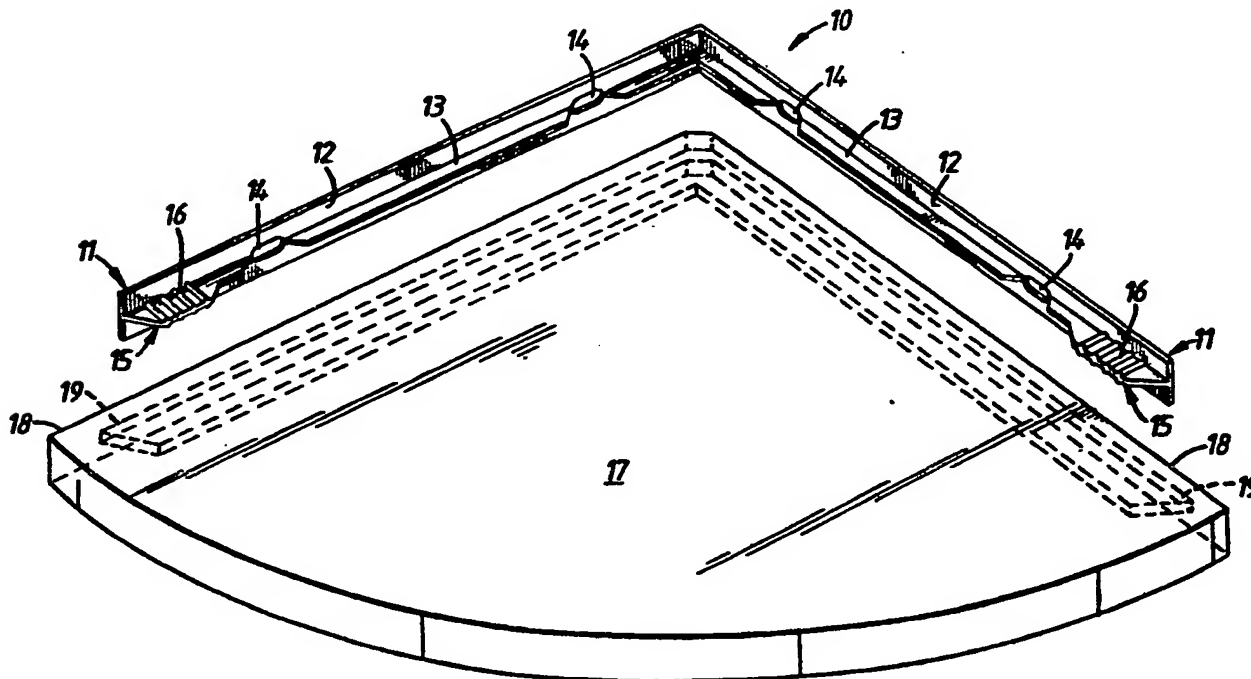


Fig. 1.

At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

The claims were filed later than the filing date within the period prescribed by Rule 25(1) of the Patents Rules 1982.

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1/2

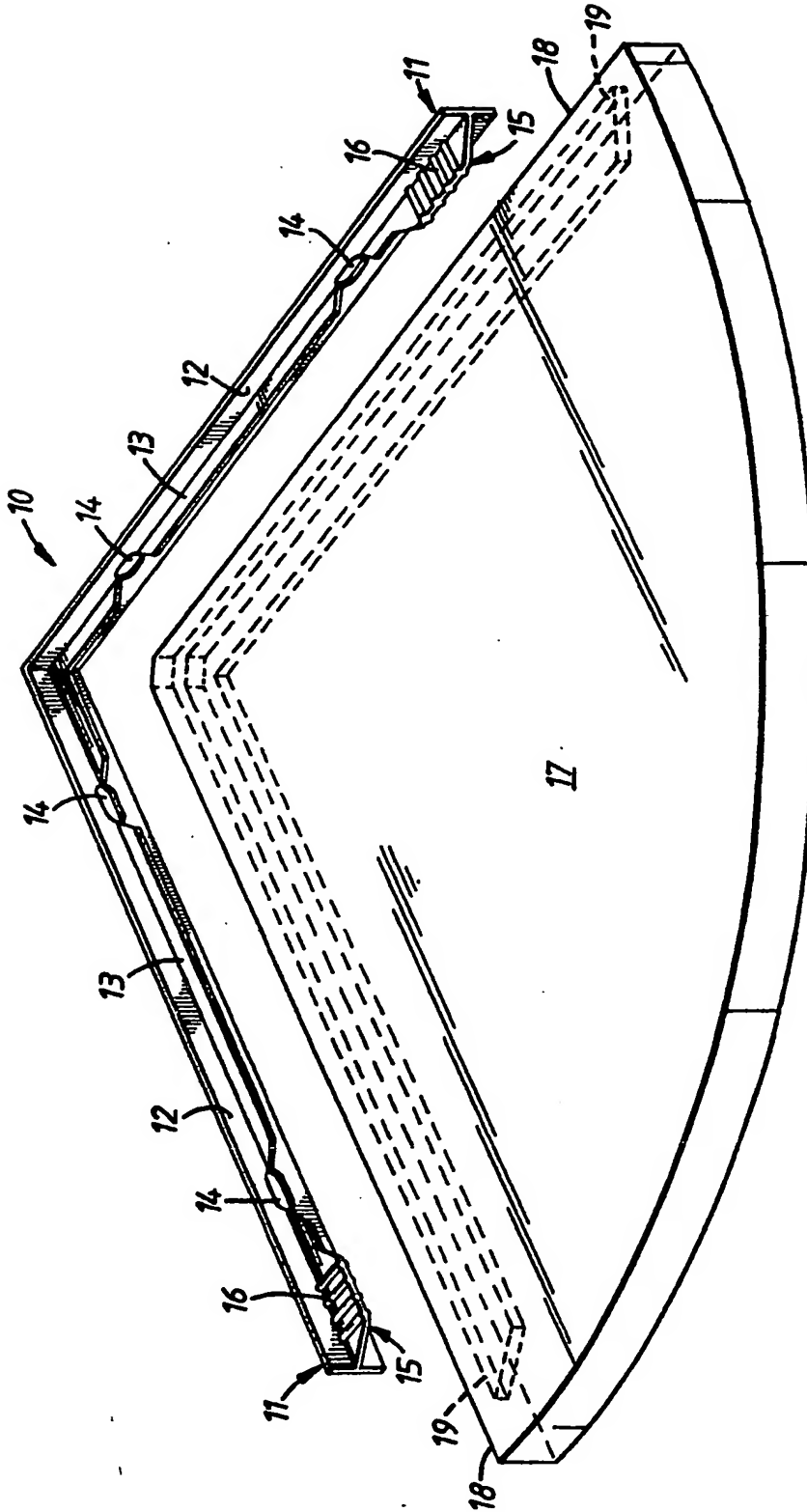


Fig.1.

2/2

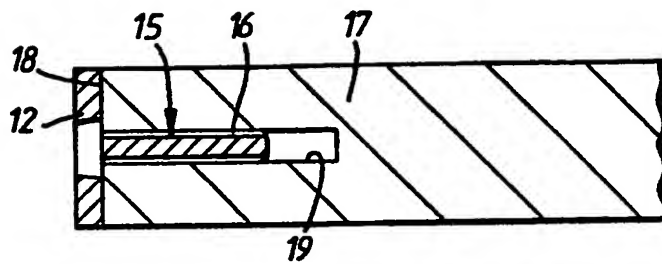


Fig. 2.

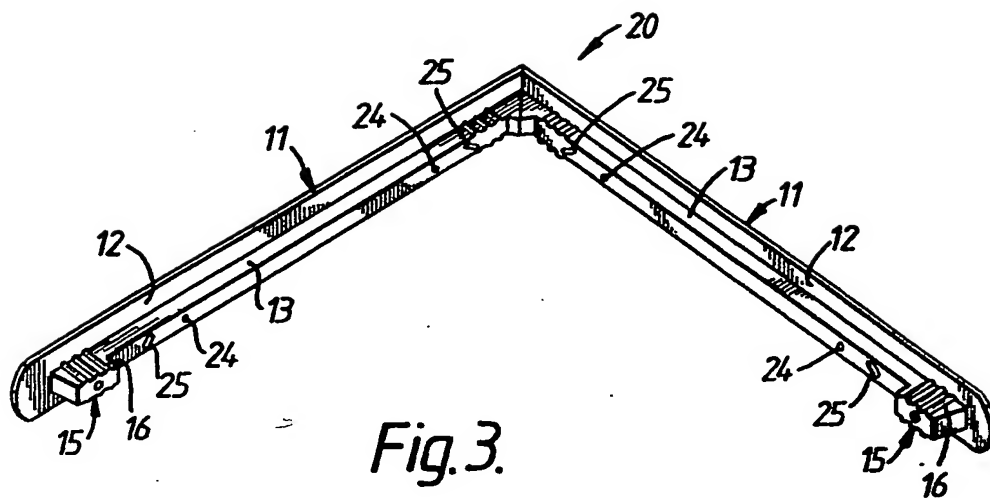


Fig. 3.

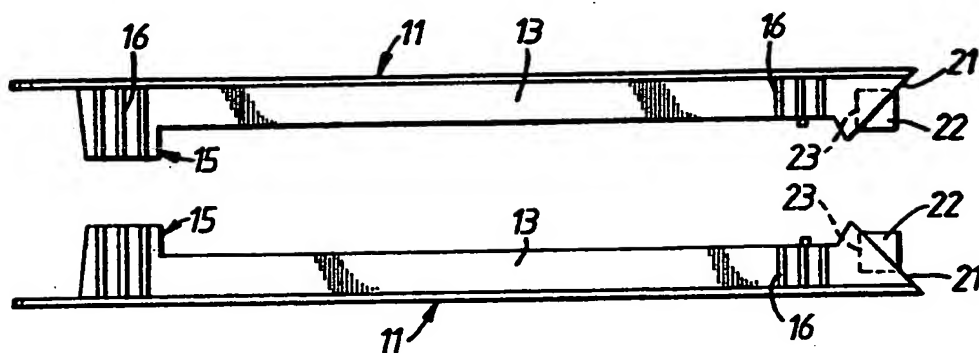


Fig. 4.

CORNER SHELF AND BRACKET

The invention relates to brackets for corner shelves and to bracket and corner shelf combinations.

There are currently a number of types of corner shelves on the market which either have cumbersome or ugly methods of fixing or which are expensive to manufacture and complicated to install. There are also corner shelves which overcome many of the above disadvantages by employing support brackets which are hidden in recesses in the shelf when in use. However, these hidden brackets cannot be used for comparatively weak materials such as low density chipboard unless an intermediate mounting member of stronger material is inset into the shelf and this increases the cost of the shelf.

According to a first aspect of the invention, there is provided a bracket for a corner shelf comprising two connected arms, each arm including a web and a flange extending from the web along the length of the web, the webs of the arms lying in respective planes which intersect and which have an angle therebetween and the flanges being coplanar, so that the webs can bear

against respective vertical walls meeting at a corner with the flanges extending into a groove provided in a corner shelf to support the shelf.

Each arm is preferably of T-section with the web extending to both sides of the associated flange.

Each flange is preferably of constant width along its length. Alternatively, however, each flange may have a portion of constant width extending from the intersection between the arms, terminating at an end thereof remote from said intersection, in a portion of increased width.

At least a portion of each flange may be provided with ribs to provide an interference fit between the flange and an associated corner shelf.

The bracket may be formed in one piece. Alternatively, the arms may be formed separately and be inter-engageable to form the bracket.

In this latter case, each arm may be provided with a projection and a recess, a projection of one arm being an interference fit in the recess of the other arm to form the bracket.

The web may be provided with holes receiving a fastener to attach the bracket to a wall, the flanges being interrupted at said holes.

According to a second aspect of the invention, there is provided a bracket according to a first aspect of the invention in combination with a shelf having two adjacent edge surfaces lying in respective planes which intersect and which have an angle therebetween equal to the angle between the planes of the webs of the brackets, each edge surface including a groove for receipt of an associated flange of the bracket.

Preferably, the arms of the brackets are shorter than the corresponding sides of the shelf.

Preferably, the height of the groove in the shelf is less than 20% of the shelf thickness.

Preferably fastening means are provided for connecting the shelf to the bracket.

The following is a more detailed description of two embodiments of the invention, by way of example, reference being made to the accompanying drawings in which:-

Figure 1 is a perspective view of a corner shelf and a first form of bracket,

Figure 2 is a partial section of the shelf and bracket of Figure 1 showing the bracket fitted into the shelf,

Figure 3 is a perspective view of a second form of bracket, and

Figure 4 is a plan view of two arms forming the second bracket of Figure 3.

Referring first to Figures 1 and 2, the bracket 10 may be formed from any suitable metal or plastics material. The bracket comprises two connected arms 11, which are of generally T-shaped cross-section with a web 12 and a flange 13.

The webs 12 of the arms 11 lie in respective planes which intersect and which have an angle of  $90^{\circ}$  between them. This is because corners between most walls are at  $90^{\circ}$  - but it will be appreciated that the angle can be any suitable angle.

The flanges 13 are coplanar and, as seen in Figure 1, are interrupted where screw holes 14 are provided in

the webs 12.

The flanges 13 have first portions of constant width extending from the connection between the arms 11 but terminate in portions 15 of increased width, for a purpose to be described below. These portions are provided with a number of parallel ribs 16 extending normal to the associated web 12.

The shelf 17 has generally the shape of a segment of a circle. The two radially extending edge surfaces 18 lie in respective planes which intersect and which have an angle of  $90^{\circ}$  between them. This is the same as the angle between the arms 11, and will, of course, vary with any variation in the angle between the arms 11.

The shelf 17 can be made from any suitable material such as plastics or any kind of wood including low density chipboard or medium density fibreboard.

The edge surfaces 18 are longer than the arms 11 and are provided with respective grooves 19 which extend into the corner shelf 17 in a direction normal to the edges 18.

In use, the arms 11 of the bracket 10 are fixed to respective walls meeting at a corner, with the junction between the arms 11 in the corner. The fixing is by screws inserted through the holes 14 and the bracket 10 is arranged so that the flanges 13 are generally horizontal. The shelf 17 is then fitted on to the bracket 10 by pushing the grooves 19 over the flanges 13. The ribs 16 on the wider portions 15 of the flanges 13 provide an interference fit in the grooves 19 so holding the corner shelf 17 on to the bracket 10. This is best seen in Figure 2.

Additionally or alternatively, screws or other fixing means may be provided to connect the shelf to the bracket.

The height of the grooves 19 is less than 20% of the shelf thickness - e.g. 3mm thick for a shelf of 15-20mm. In addition, the width of the webs 12 is no greater than the thickness of the corner shelf 17, so that, when the corner shelf 17 is mounted on the bracket 10, the bracket 10 is substantially hidden.

In practice, the corners of rooms in houses may not be exactly  $90^{\circ}$ . The bracket 10 is therefore preferably made in a material which can conform to accommodate

such variations. If a corner is more than  $90^{\circ}$ , with the angle between the shelf edges 18 remaining at  $90^{\circ}$ , there is a risk that the flange 13 may not adequately fit in the groove 19 to support the bracket 10. This problem is obviated by the increased width portions 15 of the flanges 13, which ensure support when the angle is in excess of  $90^{\circ}$ .

Referring now to Figures 3 and 4, the second form of bracket 20 may be formed of metal or plastics, but is preferably moulded from a plastics material. Parts common to the bracket 10 of Figures 1 and 2 and to the bracket of Figures 3 and 4 will not be described in detail and will be given the same reference numerals.

In this bracket 20, the two arms 11 are formed separately. One end of each arm is provided with a surface 21 which lies in a plane at  $45^{\circ}$  to the plane of the associated web 12. Each surface 21 is provided with a triangular projection 22 and a triangular recess 23.

The projection 22 of one arm 11 can be inserted in the recess 23 of the other arm 11, and vice versa, to bring the two surfaces 21 into engagement and thus hold the arms 11 with the planes of the two webs at  $90^{\circ}$ , as

shown in Figure 3. In fact, a limited amount of relative angular movement between the arms 11 is possible with this arrangement to allow the arms 11 to be mounted at angles slightly greater or less than  $90^{\circ}$ . Also, in this arrangement, the flanges 13 are provided with ribs 16 adjacent the angled surfaces 21. The flanges 13 are of greater thickness than the flanges 13 of the bracket of Figure 1 and are of sufficient thickness for fixing holes to be formed in the flange. For example, the flange 13 may be 10mm thick for a shelf of 18mm thickness.

As seen in Figure 3, each flange may have two pairs of fixing holes. The first pair of fixing holes 24 are cylindrical holes of small diameter for masonry nails and the second pair of holes 25 are angled slots for screws, the angle allowing adjustment of the arms 11 on fixing. The holes of small diameter 24 provide an interference fit for masonry nails to hold such nails correctly positioned while they are being driven into the wall.

The bracket 20 is fitted to walls and mounts a shelf as described above with reference to Figures 1 and 2.

Either bracket 10,20 may be coloured the same colour as the shelf, to help disguise the presence of the bracket 10,20.

CLAIMS

1. A bracket for a corner shelf comprising two connected arms, each arm including a web and a flange extending from the web along the length of the web, the webs of the arms lying in respective planes which intersect and which have an angle therebetween and the flanges being coplanar, so that the webs can bear against respective vertical walls meeting at a corner with the flanges extending into a groove provided in a corner shelf to support the shelf.
2. A bracket according to claim 1 wherein each arm is of T-section with the web extending to both sides of the associated flange.
3. A bracket according to claim 1 or claim 2 wherein each flange is of constant width along its length.
4. A bracket according to claim 1 or claim 2 wherein each flange has a portion of constant width extending from the intersection between the arms and terminating, at an end thereof remote from said intersection, in a portion of increased width.
5. A bracket according to any one of claims 1 to 4

wherein at least a portion of each flange is provided with ribs to provide an interference fit between the flange and an associated corner shelf.

6. A bracket according to any one of claims 1 to 5 wherein the bracket is formed in one piece.

7. A bracket according to any one of claims 1 to 5 wherein the arms are formed separately and are inter-engageable to form the bracket.

8. A bracket according to claim 7 wherein each arm is provided with a projection and a recess, a projection of one arm being an interference fit in the recess of the other arm to form the bracket.

9. A bracket according to any one of claims 1 to 8 wherein the web is provided with holes receiving a fastener to attach the bracket to a wall, the flanges being interrupted at said holes.

10. A bracket for a corner shelf comprising two arms, one arm being provided at one end with a projection and the other arm being provided with a recess, into which said projection fits to inter-engage said arms such as to hold the arms connected to form said bracket.

11. A bracket according to claim 10 wherein said arms are capable of relative movement through said projection and recess to widen or reduce the angle therebetween.

12. A bracket according to claim 10 or claim 11 wherein one arm is provided with a generally planar end from which projects a triangular projection, the other arm having a generally planar end from which extends two generally triangular members forming a triangular recess therebetween for the receipt of said triangular projection.

13. A bracket according to claim 12 wherein one edge of said triangular projection in said one arm is engageable with said planar surface on said other arm, and, in this position, edges of the triangular projection on the other arm engage with said planar surface on said one arm and the arms are mutually at right angles.

14. A bracket according to claim 12 or claim 13 wherein each arm includes a triangular projection and two triangular members forming a recess, the projection of one of said arms being received in the recess of the other of said arms.

15. A bracket for a corner shelf substantially as hereinbefore described with reference to the accompanying drawings.

16. A bracket according to any one of claims 1 to 15 in combination with a shelf having two adjacent edge surfaces lying in respective planes which intersect and which have an angle therebetween equal to the angle between the planes of the webs of the brackets, each edge surface including a groove for receipt of an associated flange of the bracket.

17. A bracket and shelf according to claim 16 wherein the arms of the brackets are shorter than the corresponding sides of the shelf.

18. A bracket and shelf according to claim 16 or claim 17 wherein the height of the groove in the shelf is less than 20% of the shelf thickness.

19. A bracket and shelf according to any one of claims 16 to 18 wherein fastening means are provided for connecting the shelf to the bracket.

20. A bracket and shelf substantially as hereinbefore described with reference to the accompanying drawings.

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